



Model FR-214 Owner's Manual

128-5379C
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Released 9-11-98.

Rev. A - Change Power station to charging stand pg. 3. 9-16-98

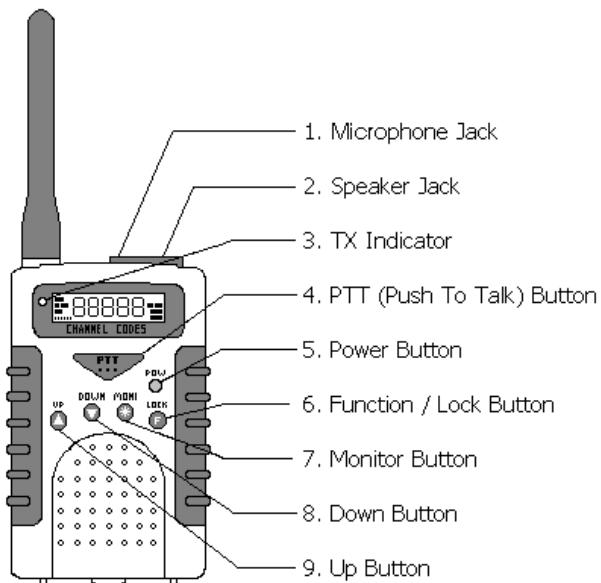
Rev. B - Change battery type from ni-cad to rechargeable pg. 3,4 9-16-98

Rev. C - Change Warranty and Customer Service telephone number 4-25-00

Model FR-214



CTCSS	Privacy Code System active
ON AIR	Transmit mode active
BUSY	Signal being received
BAT LOW	Low battery voltage warning
SCAN	Channel Scan in progress
CH	Current channel
LOCK	Transciever settings locked

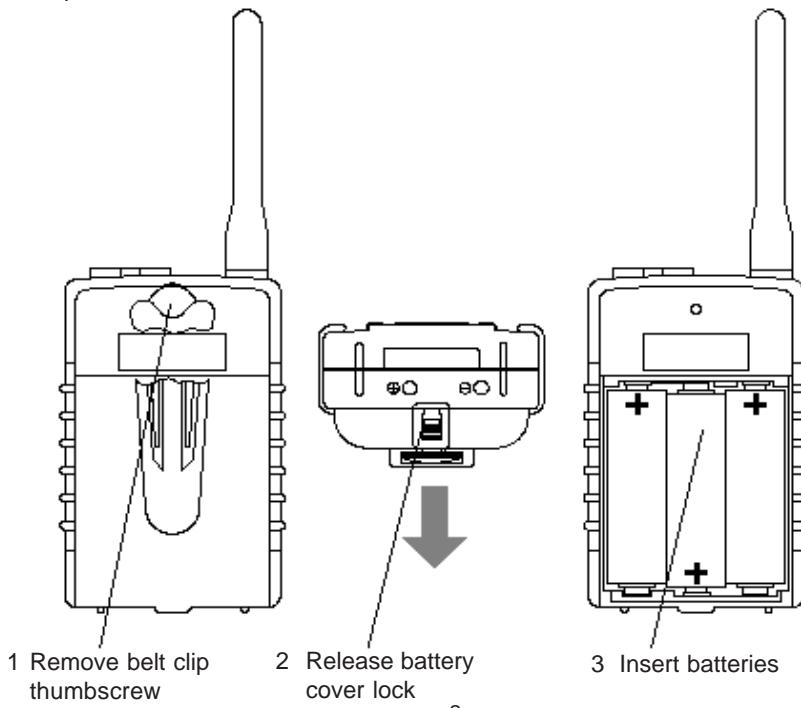


Powering the transceiver:

Your FR-214 radio transceiver kit includes three rechargeable AA batteries (RBP-214) and a charging station. You may operate your FR-214 using the rechargeable batteries included or you may use alkaline batteries. Alkaline batteries will provide slightly better performance than the rechargeable batteries.

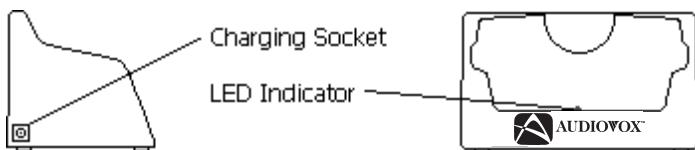
Installing the batteries:

To install batteries into the radio, it is necessary to remove the belt clip. To do this you will need to rotate its thumbscrew counterclockwise. Next, release the battery compartment lock on the bottom of the transceiver by sliding it outward. The battery cover can now be removed by sliding it downward towards the bottom of the transceiver. Observe the polarity symbols on the bottom of the tray when inserting the batteries and replace the cover. Remember to lock the cover in place with the latch and replace the belt clip.



Charging the RBP-214 batteries:

Insert the charging adapter into a household electrical outlet and connect its power jack to the socket at the lower rear corner of the charging stand. Simply placing the radio into the charging stand will begin the charging process. The red LED in front serves as a charge indicator. The LED will flash rapidly when charging weak or dead batteries. As the batteries charge, the LED will flash at a slower rate. Fully charged batteries are indicated by a rate of one flash every 10 seconds or slower. Approximately 6 hrs are required to fully charge the batteries. Remember to turn your FR-214 off before placing it into the charging stand.



Important: The charging stand in your kit is intended for use with the RBP-214 batteries included in the kit. Do not attempt to recharge any other batteries with the charging stand.

Operation:

POW Button: (red)

Press and hold this button for two seconds to turn the unit on. To turn the unit off, press and hold the button for another two-second period.

MONI Button:

A momentary press of this button will illuminate the display for viewing in low light conditions. The backlighting will remain on for five seconds. If any other buttons are pressed while the backlighting is on, the display will remain lit for another five seconds. This allows the light to remain on while the operator makes any necessary adjustments. To check the current volume setting, press the "MONI" button for two seconds, while the unit is on. If the volume is too high or too low, adjust it by using the up or down buttons as required. There are 15 possible volume levels.

When a weak signal is being received by the transmitter (i.e. A voice becomes barely audible), press the "MONI" button for two seconds. This bypasses the squelch setting to temporarily allow very weak signals to be heard.

UP and DOWN Buttons:

If these buttons are pressed before pressing the Lock/function button, a single press will display the current volume setting and subsequent presses will change the volume setting up or down.

Important: If a speaker/microphone or earphone is used, check the volume setting before connecting it to the earphone jack. Be sure to set the volume low at first, and then raise it to a comfortable level.

Lock/Function Button:

The Lock button allows the user to eliminate the possibility of accidentally changing the transceiver's selectable functions. Pressing and holding this button for two seconds will activate the lock function. "LOCK" will be displayed in the lower right of the display, indicating that the settings are locked in. While in the lock mode, it is still possible to adjust the volume, however other settings will be fixed. To unlock the transceiver simply, press and hold the lock button for 2 seconds. While the unit is unlocked, you may change any of the adjustable features by following the instructions that follow.

PTT (Push To Talk) Button:

Pressing and holding this button will allow you to speak to any transceiver that is set to the same channel and privacy code setting as yours. Hold the transceiver approximately 3 to 5 inches from your face as you speak. After you have finished speaking, release the PTT button to allow the reception of incoming signals. It is not possible to transmit and receive at the same time. "ON AIR" will show on the left side of the display and the red LED to the left of the display will illuminate while the PTT button is pressed.

Low Battery Warning:

"BATT LOW" will show in the upper right hand corner of the display as a warning of low battery voltage. As the batteries become weak only the word "ON" instead of "ON AIR" will show on the display when the PTT button is pressed.

Signal Strength Indicator (SSI):

The six dashed lines ----- on the lower left of the display indicate the strength of incoming signals. Six lines represents a strong signal. One line indicates a weak signal. While receiving a signal, one to six lines will be displayed indicating the strength of the signal. While pressing the PTT button the signal strength indicator represents the strength of the signal being transmitted.

Setting the channel:

Press the Function/lock Button once



The channel number will flash on the display, indicated by "CH_xx." Pressing the up or down buttons, momentarily, within five seconds will increment or decrement through the 14 channels one at a time.

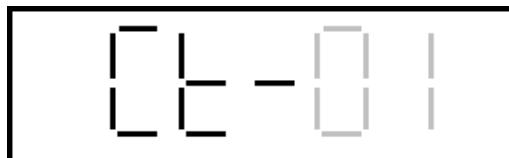
Scan Mode:

While in channel setting mode, indicated by the channel number flashing, press and hold the up or down buttons for 2 seconds to activate the Scan Mode. "Scan" will be shown on the right side of the display. While in the scan mode the transceiver will pause on active channels when receiving a transmission. Press the Lock or PTT buttons momentarily to stop scanning channels.

Important: The Scan Mode will not operate if the squelch setting is on "00"

Setting the CTCSS (Continious Tone Coded Squelch System) privacy code:

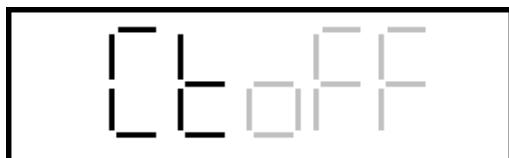
Press the Function/lock button twice



The CTCSS privacy code will flash on the display indicated by "Ct-xx." Pressing the up or down buttons, within 5 seconds will change through the 38 CTCSS privacy codes one at a time.

Using the CTCSS feature

Press the Function/lock button three times



The display will show "Ctxxx", indicating the status of the CTCSS mode as being on or off. Pressing the up or down buttons, within 5 seconds will turn the CTCSS mode on or off. When the CTCSS system is on, "CTCSS" will be shown in the upper right corner of the display and the transceiver will only receive signals from other transceivers set to the same channel and privacy code. When the CTCSS mode is off, the transceiver will receive signals from all transceivers set to the same channel. Remember that the CTCSS feature does not prevent others from listening to your transmissions. It only allows your FR-214 to ignore signals from transceivers not set to the same privacy code.

Setting the squelch level

Press the function/lock button four times



The squelch setting will flash on the display, indicated by "Sql xx" Pressing the up or down buttons within 5 seconds will change through the 7 squelch settings one at a time. This setting determines the strength that an incoming signal must have in order to be heard by the user. The higher the setting, the stronger the signal must be in order for the user to hear it. If you desire to communicate with other trancievers in close proximity, the squelch should be set high to eliminate unwanted weak signals. If the transceiver is being used at extreme range, the squelch should be set low to allow reception of weak signals. Setting the squelch to 00 will allow continuous reception of all signals. Level 3 is recommended for normal use.

Turning the button beep tones on and off

Press the Function/Lock button five times



The display will show "bpxxx" Indicating the status of the button conformation beeps, on or off. Pressing the up or down buttons, within 5 seconds will turn the button conformation beeps on or off. When the beep tones are on, pressing the up, down or lock buttons will be confirmed by a beep tone. A double beep tone will sound whenever the unit is turned on or off. When the conformation beeps are off all beep tones will be eliminated.

Scrolling to the beginning of the function setting mode

Press the Function/lock button six times



The channel number will flash on the display, beginning the function selection sequence again. If the conformation beeps are on, a double tone will be heard.

Warning

- Remove the batteries from the transceiver if it is not expected to be used for long periods. This will eliminate the possibility of chemicals leaking from the batteries and corroding the transceiver.
- Avoid exposing the transceiver to water or extremes of temperature.
- Do not use this device in or near a mining facility, which uses remotely triggered explosives or in areas labeled "Blasting Area". Premature or accidental detonation may result.
- Do not attempt to modify or in any way increase the output of this transceiver. Its output is designed to meet the legal limits set by the F.C.C.
Do not use this device or change its batteries in potentially explosive atmospheres as sparks in such areas could result in an explosion.
- Turn your transceiver off wherever posted notices restrict the use of radios or cellular telephones. Facilities such as hospitals may use equipment that is sensitive to RF energy.
- Turn your transceiver off on board aircraft when requested to do so.
- Do not place your radio in front of a vehicle's air-bag. If the air-bag deploys, it could propel the transceiver like a projectile causing bodily injury.

This transceiver complies with F.C.C. regulations for use in the United States of America. Use in other countries may be prohibited or restricted by local regulation. Please check with the local regulating agency before using this device outside the United States of America.

Troubleshooting

Problem	Possible cause	Correction
No transmission while pressing the PTT button	Weak batteries Incorrect battery Polarity	Charge or replace batteries Install the batteries in the directions indicated by the battery tray.
Weak or no signal received	Weak batteries Channel and privacy code not set the same as target transceiver Volume level too low PTT button inadvertently depressed Excessive radio interference on a particular channel Obstruction of radio signal	Charge or replace batteries Adjust the transceiver's settings to match those settings of the target transceiver Increase volume level Release PTT button Change to a different channel Avoid operating in or near large buildings or vehicles
Transceiver beeps, but will not turn on when Power button is pressed	Batteries extremely discharged	Charge or replace batteries
Reception of unwanted signals	Squelch setting too low CTCSS privacy mode not on Interference from electronic devices such as computers or TVs	Increase the squelch level Turn on the CTCSS privacy mode and set code number to match the setting of the target transceiver. Turn the devices off or move farther away from them.

Technical Specifications:

General

Frequency Range	462 - 467 MHz
Channels	14
Privacy Codes	38
Modulation Type	FM \pm 2.5 KHz
Power Supply	3 - 4.5VDC

Receiver

Sensitivity at 12dB Sinad	.25 microvolts
Selectivity	45 dB
Distortion at 775 millivolts Audio Power	3% @775 milliwatts
Audio Frequency Response	400 – 3000 Hz

Transmitter

RF Output Power	500 milliwatts
Frequency Tolerance	0.00025%
Harmonic Suppression	>50 dB

Channel Frequencies:

Channel	Freq. MHz	Channel	Freq. MHz
1	462.5625	8	467.5625
2	462.5875	9	467.5875
3	462.6125	10	467.6125
4	462.6375	11	467.6375
5	462.6625	12	467.6625
6	462.6875	13	467.6875
7	462.7125	14	467.7125

Continuous Tone Coded Squelch System Tone Frequencies

CTCSS	Freq. Hz	CTCSS	Freq. Hz
1	67.0	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77.0	23	146.2
5	79.7	24	151.4
6	82.5	25	156.7
7	85.4	26	162.2
8	88.5	27	167.9
9	91.5	28	173.8
10	94.8	29	179.9
11	97.4	30	186.2
12	100.0	31	192.8
13	103.5	32	203.5
14	107.2	33	210.7
15	110.9	34	218.1
16	114.8	35	225.7
17	118.8	36	233.6
18	123.0	37	241.8
19	127.3	38	250.3

90 DAY LIMITED WARRANTY

Applies to Audiovox Family Radio Service Products.

AUDIOVOX CORPORATION (the Company) warrants to the original retail purchaser of this product that should this product or any part thereof, under normal use and conditions, be proven defective in material or workmanship within 90 days from the date of original purchase, such defect(s) will be repaired or replaced with new or reconditioned product (at the Company's option) without charge for parts and repair labor.

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), specification of defect(s), transportation prepaid, to the warranty center at the address shown below.

The Company disclaims liability for communications range of this product.

This Warranty does not apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, neglect, accident, or by removal or defacement of the factory serial number/bar code label(s). THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT.

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